

Physical function measurements predict mortality in ambulatory older men

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Introduction

- ➔ **Physical function measurements**

➔ **health-related outcomes** ¹

- ➔ **Functional status measurements**

↔ ***objective* measurements** ²

- ➔ **Assessment & comparison of physical function measurements as predictors for all-cause mortality**

^{1,2} Cooper R *et al.* 2010

¹ Studenski S *et al.* 2003

² Guralnik JM *et al.* 1989

Introduction

- ➔ **Timed Up and Go test** ¹
 - ➔ falls ²
 - ➔ mortality ³
- ➔ **Evaluation Timed Up and Go test as a predictor for global mortality**
 - ➔ after 15y follow-up
 - ➔ in subjects with underlying comorbidity

¹ Podsiadlo D *et al.* 1991

² Shumway-Cook A *et al.* 2000

² Viccaro LJ *et al.* 2011

³ Tice JA *et al.* 2006

³ Hoshide S *et al.* 2008

³ Davis DH *et al.* 2011

Design

- ➔ **Observational study (1996 - 2011)**
- ➔ **Community-based setting (Merelbeke)**
- ➔ **Participants:**
 - ➔ 352 ambulatory older **men** (/ 748)
 - ➔ aged 70 to 85 at recruitment

Physical function measurements

- ➔ **ADL Rapid disability rating scale-2**
 - ➔ **Physical function index < 36-item short form health survey**
 - ➔ **Hand grip strength**
 - ➔ **Five times sit-to-stand test**
 - ➔ **Standing balance**
 - ➔ **Timed Up and Go test**
- Functional status measurements
- Muscle strength measurement
- Physical performance measurements

Methods

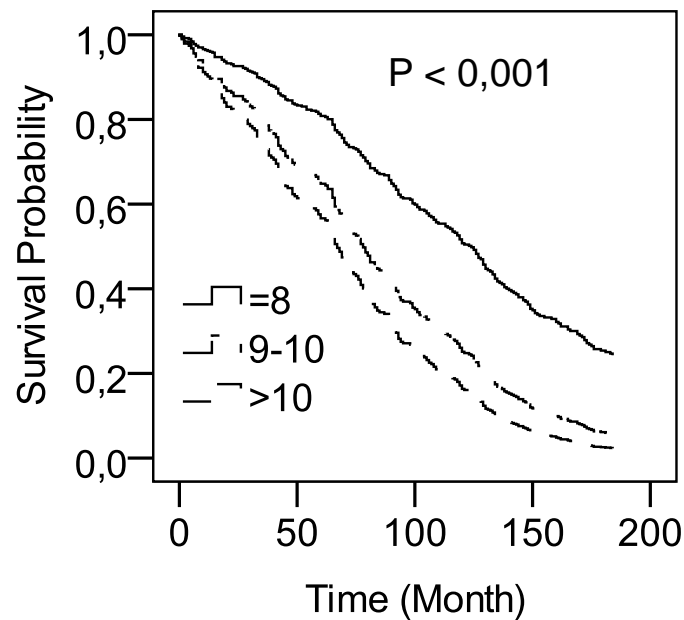
- ➔ **Follow-up > 15y**
- ➔ **Cox proportional hazard analyses (Z-scores)**
- ➔ **Covariates:** age, BMI, smoking status, education, physical activity, and cognitive status
- ➔ **Comorbidity status:**
 - ➔ cardiovascular disease
 - ➔ chronic obstructive pulmonary disease
 - ➔ diabetes mellitus

Results

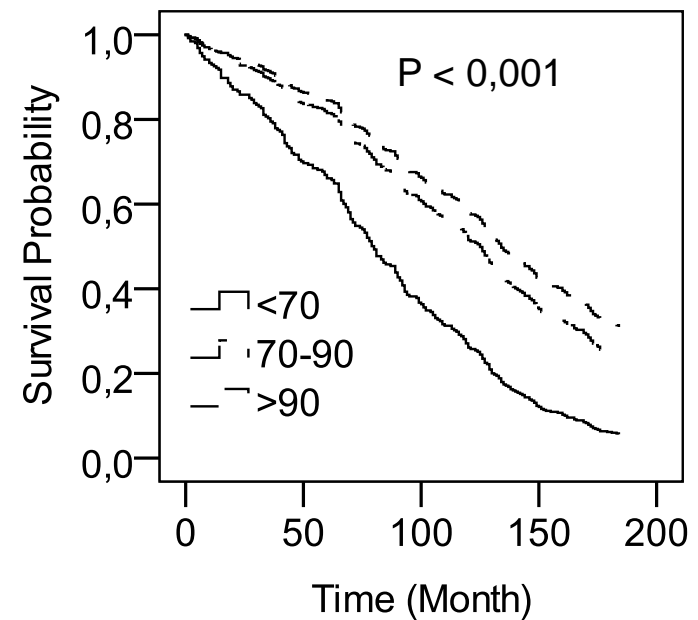
- ➔ **71 - 86y at baseline**
- ➔ **Mean score RDRS-2 = 22**
- ➔ **† 273 / 352 men (78%)**
- ➔ **Median survival time = 110 months**

Results

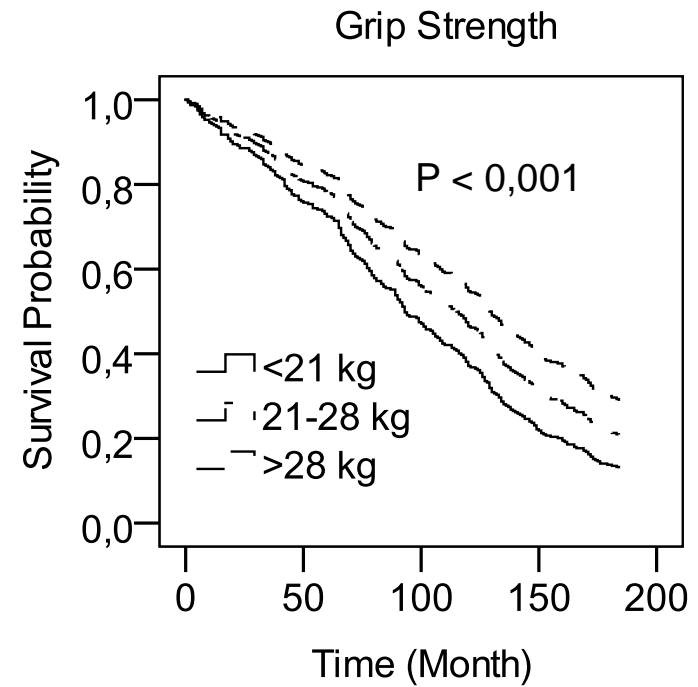
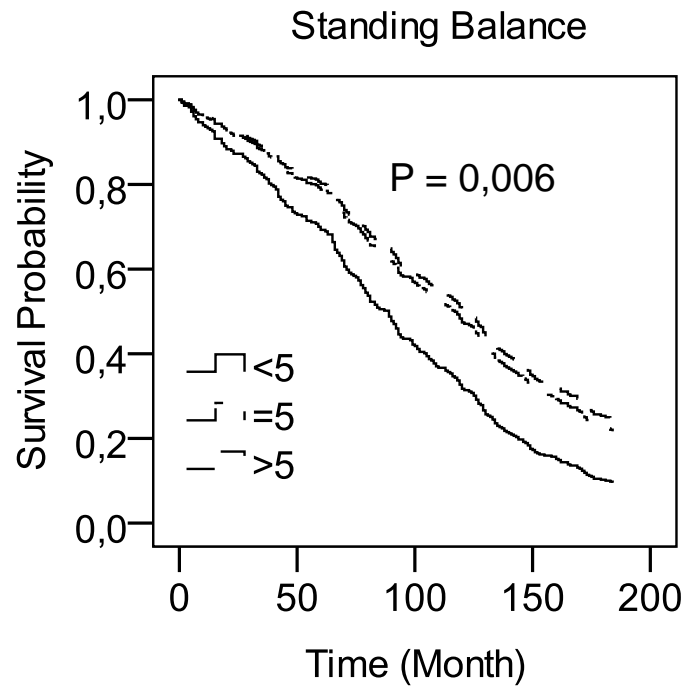
Rapid Disability Rating Scale-2 ADL



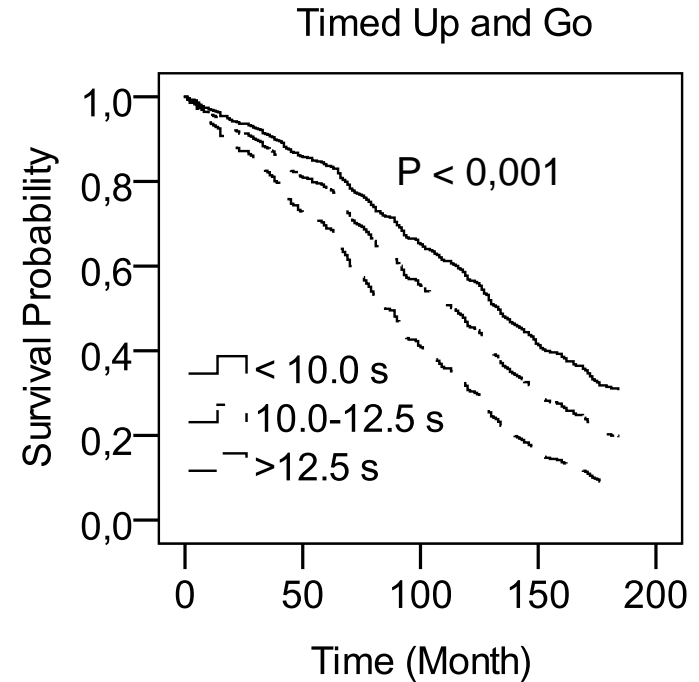
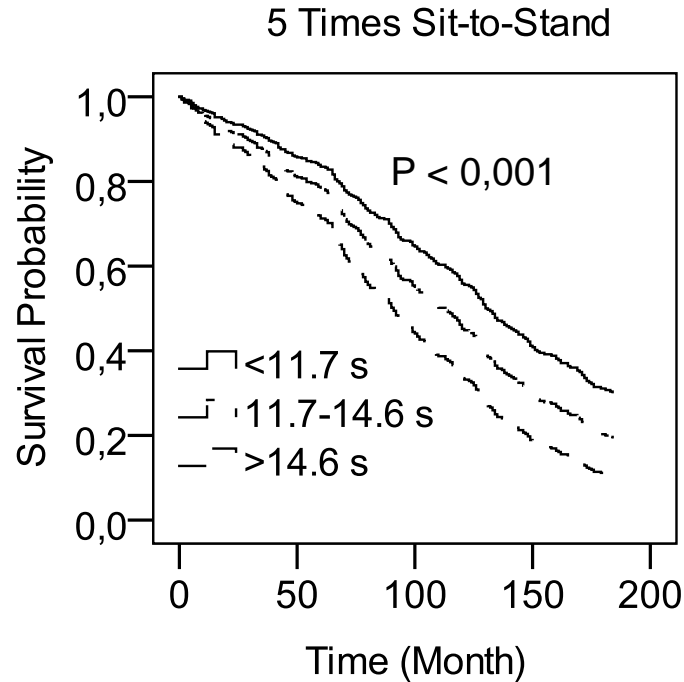
Short Form-36 Physical Function Index



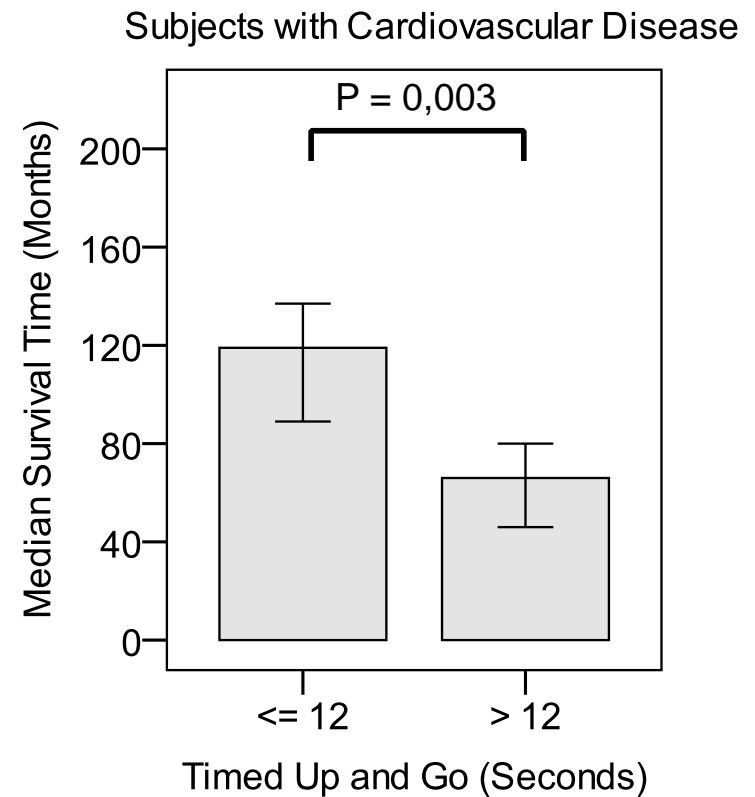
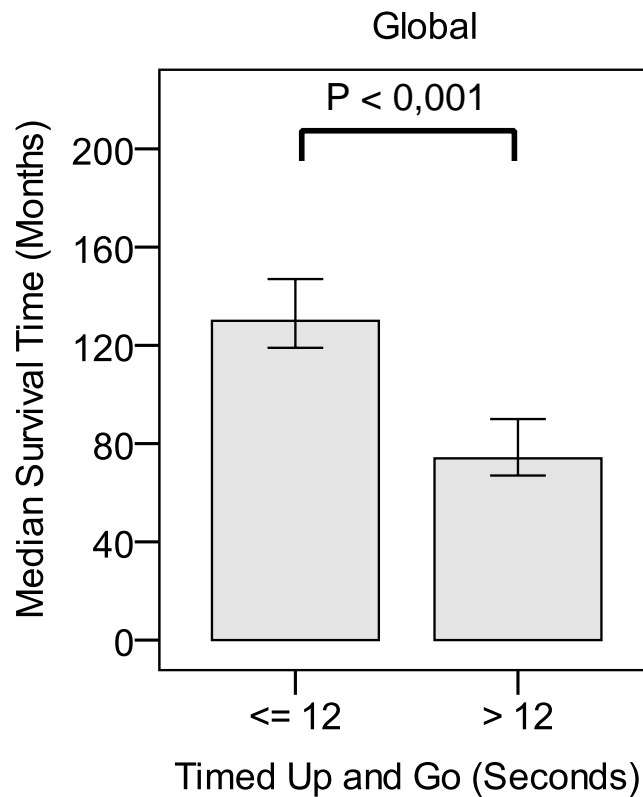
Results



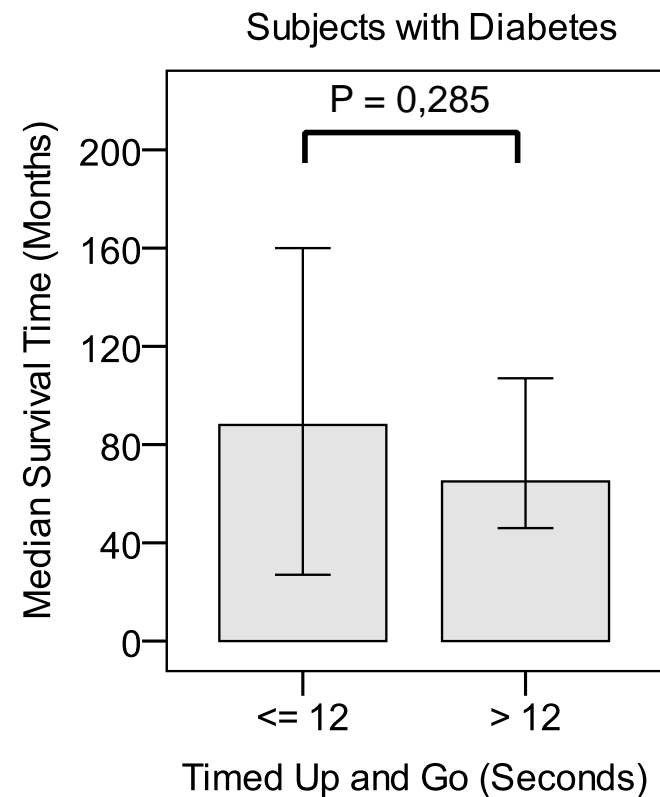
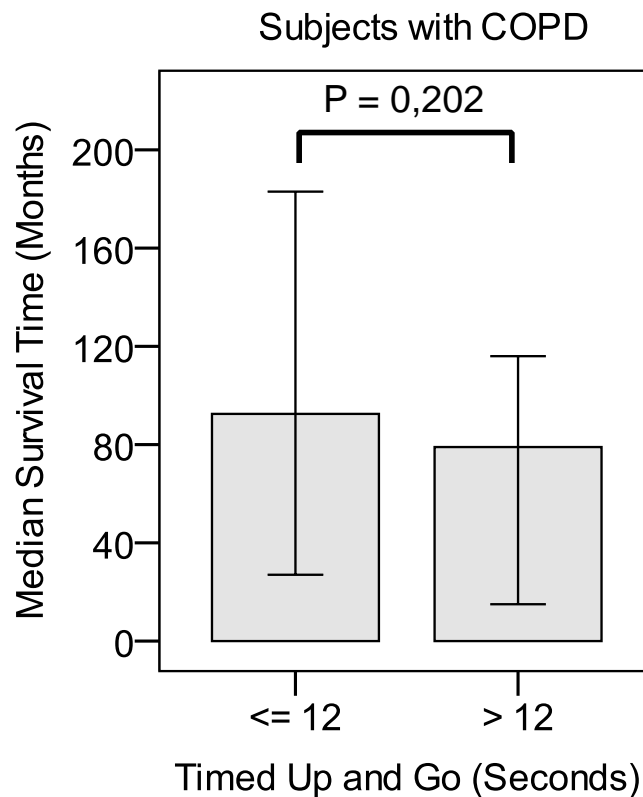
Results



Results



Results



Discussion

- ➔ **Weaker association with mortality** ¹
 - ← **Longer follow-up** ²

- ➔ ***Timed* physical performance measures**
 - ↔ **functional status measurements** ³

¹ Cesari M *et al.* 2008

^{2,3} Cooper R *et al.* 2010

Conclusion

- ➔ **Assessment of physical functioning in the evaluation of older persons!**
- ➔ **Timed Up and Go test**
 - ➔ Objective time score
 - ➔ Quick (mean = 12,2 sec)
 - ➔ No special training
 - ➔ Feasible (348 / 352)
 - ➔ Little equipment needed